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Committed to Nuclear Excellence

Monticello Nuclear Generating Plant
Operated by Nuclear Management Company, LLC

October 25, 2002

10 CFR Part 50,
Section 50.90

US Nuclear Regulatory Commission
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MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Response to Request for Additional Information Regarding License Amendment Request for Five Year Extension of Type A Test Interval (TAC # MB4919)

Reference 1: Nuclear Management Company, LLC Submittal of License Amendment Request for Monticello Nuclear Generating Plant Regarding, Risk Informed Technical Specification Change Regarding Five Year Extension of Type A Test Interval, dated April 22, 2002

Reference 2: NRC Request For Additional Information Related To License Amendment Request (TAC No. MB4919), dated September 23, 2002

Reference 1 proposed Technical Specifications changes to Appendix A of Operating License DPR-22, for the Monticello Nuclear Generating Plant. The purpose of the License Amendment Request was to revise the Monticello Technical Specifications (TS) to incorporate a one-time five-year extension to the Type A test Interval.

Reference 2 requested Nuclear Management Company, LLC (NMC) to provide additional information in support of the license amendment request submitted by Reference 1.

Exhibit A provides NMC's response to the NRC's request for additional information for the previously submitted License Amendment Request.

The original changes were evaluated in accordance with 10 CFR 50.91(a)(1), using the criteria in 10 CFR 50.92(c), and were determined not to involve any significant hazards consideration. The attached information does not impact that determination, therefore, the Determination of No Significant Hazards Consideration submitted by the original letter dated April 22, 2002, is also applicable to this submittal.

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Additionally, the original changes were evaluated and determined to meet the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9) and pursuant to 10 CFR 51.22(b) an Environmental Assessment was not required. The attached information does not impact that determination, therefore, the Environmental Assessment submitted by the original letter dated April 22, 2002, is also applicable to this submittal.

If you have any questions regarding this response to Request for Additional Information please contact John Fields, Senior Licensing Engineer, at (763) 295-1663.

Jeffrey S. Forbes
Site Vice President
Monticello Nuclear Generating Plant

Subscribed to and sworn before me this 25th day of October, 2002

Kathryn I. Kleine
Notary

KATHRYN I. KLEINE
NOTARY PUBLIC - MINNESOTA
My Comm. Exp Jan. 31, 2005

Attachments: Exhibit A – Response to Request for Additional Information Related to License Amendment Request Regarding Five Year Extension of Type A Test Interval

cc: Regional Administrator-III, NRC
NRR Project Manager, NRC
Sr. Resident Inspector, NRC
Minnesota Department of Commerce
J. Silberg, Esq.

Response to Request for Additional Information Related to License
Amendment Request Regarding Five Year Extension of Type A Test Interval

NRC Question #1:

On Page A-4 of Exhibit A, under IWE and IWL Inspection Program Activities, the staff understands that the licensee is using the 1992 Edition and the 1992 Addenda of Subsection IWE. IWE-1240 requires that the owner to identify the surface areas requiring augmented examinations. Please provide the NRC staff with the list of the areas identified for augmented examination and a summary of examinations performed.

NMC Response:

The development of the original Containment Inspection plan determined that no areas of Monticello's containment required augmented examinations per IWE-1240. Several reasons exist that include:

- Containment atmosphere is inerted with nitrogen during operation and is monitored routinely.
- Monticello has a well established and proven Nuclear Coatings Program:
  - Coatings in the Drywell and the Suppression Chamber Interior are examined, each refueling cycle by qualified personnel, and the Suppression Chamber Exterior is required to be examined routinely on a five-year basis.
  - Monticello has routinely drained the Suppression Chamber in the past and has had qualified personnel perform inspection of the coatings. These inspections have shown that no significant base metal corrosion has occurred on the interior of the Suppression Chamber.
  - Following the 1997 Suction Strainer Replacement Outage, in which the Suppression Chamber was drained and the interior was examined by the qualified engineer, NRC Inspection Report 50-263/97011 Manifest Date: August 26, 1997 states that "the MNGP torus appeared to be maintained in an excellent manner."
- Previous degradation of the moisture barrier, which caused minor corrosion at the Drywell Shell to Basemat Interface, has been repaired to its original condition. (See response to Question 6 for more detail)
- Other normally inaccessible areas, have been evaluated in the past and found to have no indication of degradation. (See response to Question 6 for more detail)

With the reasons mentioned above, in combination with having a Containment Inspection Program, Monticello ensures degradation is identified and corrective actions taken in a timely manner that would preclude the need for augmented examination.

NRC Question #2:

On Page A-4 of Exhibit A under IWE and IWL, the licensee considered the first inspection period as five years (September 9, 1996 to September 8, 2001) the period given to the licensees to complete their first period examination in 10 CFR 55.55a. In the NRC response to NEI questions 13, 15, and 16 on containment inservice inspections requirements discussed in NRC letter to NEI entitled "Response to NEI's Topic and Specific Issues related to Containment Inspection Requirements," dated May 30, 1997, the NRC explained that this interpretation of the rule was incorrect. The staff noted that the inspection periods should be determined as required in the ASME Code, Section XI. Please provide your actual start dates of the first and subsequent inspection periods for ASME Code Class MC components in the first interval as required by the ASME Code, Section XI.

NMC Response:

Monticello has reconsidered the Interval dates based on the NRC interpretation found in the reference provided by the NRC Staff, Letter to NEI from the NRC dated May 30, 1997. Monticello has adopted the Program B schedule of IWE-2412, and have also used the flexibility permitted in IWE-2411(b) to extend our 1st period forward approximately 6 months to allow IWE examinations to coincide with a scheduled plant outage.

Monticello's Revised First 10 Year Interval for Containment Inspection (IWE) is as follows :

- Period 1
  September 9, 1998 – September 8, 2001 (3 years) (this period is extended forward to March 20, 1998 to permit IWE examinations to coincide with the Cycle 18 Refueling Outage)
- Period 2
  September 9, 2001 – September 8, 2005 (4 years)
- Period 3
  September 9, 2005 – September 8, 2008 (3 years)

These dates will be incorporated in the next revision of our Plan.

NRC Question #3:

On Page A-4 under IWE and IWL, the licensee states that "Exceptions taken to the ASME Section XI requirements have been documented and approved by NRC as relief requests." NRC letter dated October 4, 2000 authorized the relief requests, MC-2 and MC-3 for Examination Categories E-D and E-G. As an alternative, the licensee planned to examine these components during leak rate testing of the primary containment. With the flexibility provided in Option B of Appendix J for Type B and Type C testing (as per Nuclear Energy Institute (NEI) report 94-01 and Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program", September 1995), the extension requested in this amendment for Type A testing, please provide the schedule for examination and testing of seals, gasket, and bolts that provides assurance of the integrity of the containment pressure boundary.

NMC Response:

Monticello scheduling rules as allowed by Option B of Appendix J of 10 CFR 50 will be as follows:

> The initial test frequency for performing a leak test on seals, gaskets and bolts, which are Type B components, is at least once every 30 months. If two consecutive as-found Type B tests are less than their administrative limit, the test interval is extended to 60 months. If three consecutive as-found Type B tests are less than their administrative limit, the test interval is extended to 120 months. If a test result is greater than the administrative limit for the components, the component is restored to a leak rate below the administrative limit and the test interval is re-established at 30 months.
>
> Regardless of the above schedule, any repair or disassembly of a component with a seal, gasket, or bolted connection requires a post-maintenance Appendix J, Type B test.

Therefore, Monticello does not rely solely on Type A testing for seals, gaskets, or bolted connections.

NRC Question #4:

On Page A-5 of Exhibit A under "Plant Operational Performance," the licensee states, "The primary containment is maintained at a slightly positive pressure during power operation. Primary containment pressure is monitored in the control room." Please provide information related to the maintenance of this positive pressure, such as, the average positive pressure maintained, and details of proposed administrative control to monitor containment depressurization activities and trends (e.g. frequency, duration) for indication of changes to containment leakage.

NMC Response:

During power operation the primary containment atmosphere is inerted with nitrogen to ensure that no external sources of oxygen are introduced into containment. The Containment Atmosphere Control System provides a supply of makeup nitrogen to maintain primary containment oxygen concentration within Technical Specification limits. The primary containment is typically maintained at approximately 0.4 psig during power operations; "Primary Containment Hi/Lo Pressure" is annunciated in the Control Room. Primary containment pressure is graphically displayed on a control room recorder and monitored via the Safety Parameter Display System (SPDS), critical plant variables displays. Trends can be produced on demand by using data from the process computer.

NRC Question #5:

The stainless steel bellows have been found to be susceptible to trans-granular stress corrosion cracking, and leakages through them are not readily detectable by Type B testing (see NRC Information Notice 92-20, "Inadequate Local Leak Rate Testing"). The licensee states that "Monticello containment design includes a steel drywell and suppression chamber with interconnecting vent pipes with bellows." If degraded, the bellows could allow the drywell steam and air to bypass the suppression pool during loss-of-coolant accidents and core damage accidents. Please provide information regarding inspection and testing of the bellows at Monticello.

NMC Response:

Monticello containment design includes a steel drywell and suppression chamber with interconnecting vent lines with bellows. The vent lines are welded to the drywell and to the vent-header down-comer assembly and pass through the suppression chamber penetration. The suppression chamber penetration, extended by the expansion bellows is welded to the vent line. In this configuration, degradation of the suppression chamber penetration expansion bellows would not allow the drywell steam and air to bypass the suppression pool during loss-of-coolant-accidents and core damage accidents. The suppression pool chamber penetration expansion bellows is a design feature of the containment and consists of two single ply bellows in series. The suppression chamber penetration bellows are inspected in accordance with IWE requirements and tested during the Type A test.

NRC Question #6:

Inspections of some reinforced and steel containments (e.g., North Anna, Brunswick, and D. C. Cook, Oyster Creek), have indicated degradation from the uninspectable (embedded) side of the steel shell and liner of primary containments. The major uninspectable areas of the Mark I containment are the vertical portion of the drywell shell and part of the shell sandwiched between the drywell floor and the basemat. Please discuss what programs are used to monitor their condition. Also, address how potential leakage due to age related degradation from these uninspectable areas are factored into the risk assessment in support of the requested ILRT interval extension.

NMC Response:

Monticello has taken aggressive efforts in the past to ensure that uninspectable areas of containment have retained their integrity and are not in a degraded state that would allow leakage through the containment boundary.

- Monticello maintains an inerted nitrogen atmosphere in Containment during operation. The atmosphere is monitored routinely.
- The intact moisture barrier and drywell floor are designed to channel any water accumulation to the sump system to prevent corrosion at the basemat to floor interface.
- Qualified personnel at each refueling outage inspect the containment coatings and structures per approved procedures.
- A nuclear coatings program is in place to restore any degraded areas of coating that are evaluated to be in need of repair.
- The IWE Containment Inspection Program is in place and has completed the first period exams.
- Also on record are the successful results of previous ILRT's.

A summary of work performed in inaccessible regions of containment is as follows:

<u>Drywell Shell to Basemat Interface:</u>
In NSP's response to Generic Letter 87-05, it was noted that there was minor corrosion identified at the drywell shell to drywell concrete floor interface. The minor corrosion was cleaned and later repaired.

In 1996, the selected portions of the caulk (moisture barrier) were removed for inspection. During this effort corrosion was discovered under the caulk. Seven areas of thickness readings were taken, in each area two reading were taken and recorded. The results from testing showed the most severe wall loss was only 0.057". The drywell surface was repaired prior to the caulking replacement.

In 1997 maintenance was performed to ensure the integrity of the Drywell Basemat to Shell Interface. A preservice visual inspection was performed on the moisture barrier. Exam reports are contained in the IWE 1st Period Summary Report.

Sand Pockets:

MNGP is designed with an air gap between the drywell vessel and the biological shield wall. There are three drainage paths for removing leakage that may result from refueling or from spillage of water into the drywell air gap. The first path prevents drywell refueling bellows leakage from entering the air gap. The second is at the drywell sand pocket interface where there is a galvanized steel plate, which is sealed to the drywell. The third pathway is from the sand pocket itself. During Refueling Operations at MNGP sandpocket and air gap drains are inspected for signs of leakage after floodup.

All sealing materials between the refueling cavity and the drywell air gap are steel pieces that are joined by watertight welds. A flow switch is provided on the drywell refueling bellows leakage drain line to detect leakage from the seal area.

The outlets of the sand pocket drains and the air gap drains were inspected in 1987 and with only one exception found to be unobstructed. It is believed that the obstruction was the results of drying of the sand pocket during construction and not leakage during operation.

Drywell shell thickness measurements were taken in 1987. Some minor interior corrosion was detected and was visible at the interface of the concrete floor and the drywell shell. This area was repaired. There was no thinning of the exterior shell.

Based on the above descriptions of the MNGP aggressive efforts addressed in our Containment Inspection Plan, MNGP believes that age related degradation has been more than adequately addressed. Additionally, as stated in our original submittal dated April 22, 2002, our risk assessment shows that even with increased potential to have an undetected containment flaw or leak path due to extending the ILRT interval, the increase in risk is insignificant.